

Sub B3
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phenylhydroxyacid, and wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.

15. (Once Amended) The method of Claim 5, wherein said solder bumps includes no solder material fluxing agent and said liquid polymeric material comprises a polymer fluxing agent, wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid, and wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.

REMARKS

This Amendment is submitted in response to the Office Action mailed November 1, 2002, wherein the Examiner noted an incorrect incorporation by reference, and wherein claims 1-16 were rejected under 35 U.S.C. §112, ¶2, claims 1-2 were rejected under 35 U.S.C. §102(a) as being anticipated by Murakami (U.S. Patent No. 6,133,066), claims 3-6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Murakami, claims 7-9 and 16 were rejected under §103(a) as being unpatentable over Murakami in view of Wang (U.S. Patent No. 6,476,676) or Konarski (U.S. Patent No. 6,458,472), claims 10-13 were rejected under §103(a) as being unpatentable over Murakami in view of Stefanowski (U.S. Patent No. 5,334,260) and Wang or Konarski, claims 1-6 were rejected under §103(a) as being unpatentable over Lin et al. (U.S. Patent No. 6,207,475), claims 7-9 and 16 were rejected under §103(a) in view of Lin et al. in view of Wang or Konarski, and claims 10-13 were rejected under §103(a) in view of Lin et al. in view of Stefanowski and Wang or Konarski. In addition, the Examiner has indicated that claims 14 and 15 would be allowable if rewritten to overcome the rejections under §112, ¶2. In response to the Office Action, claims 10, 14 and 15 have been amended. In response to a previous restriction requirement, claims 17-20 were previously withdrawn from consideration. **Claims 1-16 are pending in the application.**

Attached hereto is a marked-up page version of the changes made to claims 10, 14, and 15 by the current amendment. The attached page is captioned "**VERSION WITH MARKINGS TO SHOW CHANGES**". Applicants respectfully submit that no new matter has been entered by the amendments to claims 10, 14, and 15.

For the reasons set forth below, Applicants respectfully submit that all remaining claims

in this application are patentably distinct over the prior art of record. Reconsideration and allowance of all pending claims in the application are respectfully solicited.

IDS

Examiner has noted that one of the references has not been submitted in compliance with 37 C.F.R. §1.98(b). In response, Applicants are submitting herewith an I.D.S. and copy of the reference referred to by the Examiner.

Rejections under 35 U.S.C. §112, ¶2

Claims 1-16 have been rejected under §112, ¶2 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, Examiner has alleged that claims 1 and 10 lack sufficient antecedent basis. Applicants respectfully traverse the assertion of insufficient antecedent basis in claim 1 and have amended claim 10.

Examiner has asserted that claim 1 has insufficient antecedent basis for the limitation “the edges” in line 4 of that claim. Applicants respectfully disagree. The term “the edge” refers to the edges of the recited substrates. Since every substrate in a manufacturing process has an edge, an edge is an inherent component of every substrate, there is no need to provide explicit antecedent basis. As the MPEP in §2173.05(e) notes that “[i]nherent components of elements recited have antecedent basis in the recitation of the components themselves. For example, the limitation “the outersurface of said sphere” would not require an antecedent recitation that the sphere has an outer surface.” Applicant thus respectfully requests that Examiner withdraw the rejection of claim 1.

Examiner has also noted that claim 10 has insufficient antecedent basis for the “said polymer fluxing agent” in line 1 of that claim. In response, Applicants have amended claim 10 to depend on claim 7. Support for this amendment is found in the specification. Applicants respectfully requested that the Examiner withdraw the rejection of claims 1-10 under §112, ¶2.

Rejections under 35 U.S.C. §102

Claims 1-2 have been rejected under 35 U.S.C. §102(a) as being anticipated by Murakami. Applicants respectfully traverse this rejection, as Murakami fails to teach or suggest the claimed invention.

Independent claim 1 begins by reciting “[a] method for producing an assembly of **substrates** comprising dispensing a liquid polymeric material between a conducting surface on a

first substantially planar substrate and a conducting surface on a **second substantially planar substrate ...**” (emphasis added). As noted in the specification of the present application, the substrates to be joined are “selected from flexible substrates, rigid substrates, circuitized substrates, rigid wafers, circuit boards such as PCB or laminated circuit boards, or the like.” (page 6, 1st paragraph). Particularly when read in light of the specification, the claims of the present invention are directed to the joining of substrates.

In contrast to the present invention, Murakami is clearly directed to a method of joining a semiconductor element, specifically a flip chip, to a substrate (see, for example the Field of the Invention section of Murakami). As such, Murakami neither anticipates nor suggests the limitation of joining two substrates that is recited in claim 1 or in its dependent claim 2. Applicants thus respectfully request that the Examiner withdrawal the rejection of claims 1 and 2 under §102(a).

Rejections under 35 U.S.C. §103

Claims 1-13 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable either over Murakami, or Lin et al., either alone or in combination with Wang, Konarski, Stefanowski. This rejection is respectfully traversed, as it will be subsequently shown that a *prima facie* case of obviousness has not been established.

One of the three criteria which must be met to establish a *prima facie* case of obviousness (MPEP §2142) is that the references must teach or suggest all claim limitations. Independent claim 1 recites a method for joining two substrates, as discussed in the previous section of this Amendment, and through their dependency on claim 1, dependent claims 2-13 and 16 each include limitation.

In contrast, Lin et al. is directed to a method for joining flip chips to a substrate, as is Murakami as previously discussed. There is no teaching or suggestion in Lin et al., Murkami, or any of the other references, taken individually or in combination, for joining two substrates. As noted in the specification of the present invention, the inventive method overcomes the problems in prior art methods, and provides for the joining of large areas, such as entire semiconductor substrates. For these reasons, none of the references of record, either individually or in combination, teaches or suggests all of the limitations of the claims of the present invention, which recite, in independent claim 1, the joining of two substrates. For this reason, Applicant’s respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness,

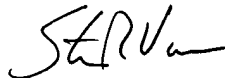
and Applicants respectfully request that the rejection of claim 1-13 and 16 under § 103(a) be withdrawn.

Allowable Claims

The Examiner has indicated that claims 14 and 15 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. Claims 14 and 15 have been amended to include all of the limitations of the base claim and any intervening claim. Claims 14 and 15 are thus believed to be in condition for allowance.

If a telephone conference would expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (415) 409-2900.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES

Additions are shown in **bold-faced** type. Deletions are **bold-faced** and enclosed in brackets [].

In the Claims:

Claims 10, 14, and 15 have been amended as follows:

10. (Once Amended) The method of Claim [6] 7 wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid.

14. (Once Amended) The method of Claim [10] 5, wherein said solder bumps comprise a solder material fluxing agent, wherein said liquid polymeric material comprises a polymer fluxing agent, wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid, and wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.

15. (Once Amended) The method of Claim [11] 5, wherein said solder bumps includes no solder material fluxing agent and said liquid polymeric material comprises a polymer fluxing agent, wherein said polymer fluxing agent comprises a beta phenylacid and/or a beta phenylhydroxyacid, and wherein said beta phenylacid comprises beta phenylacrylic acid and said beta phenylhydroxyacid comprises beta phenylhydroxyacrylic acid.